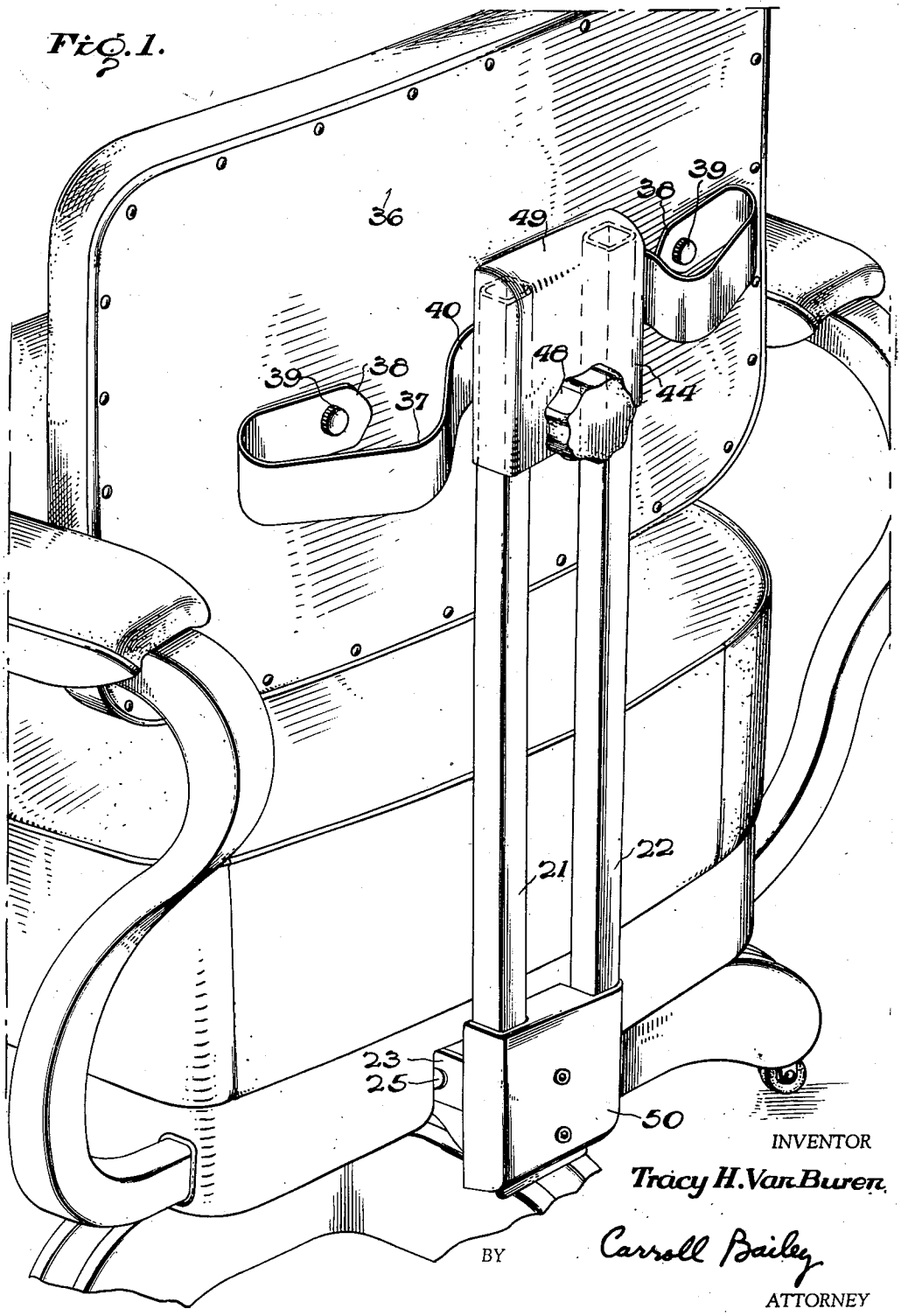
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POSTURE CHAIR

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FIG. 1.



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Fig. 2.

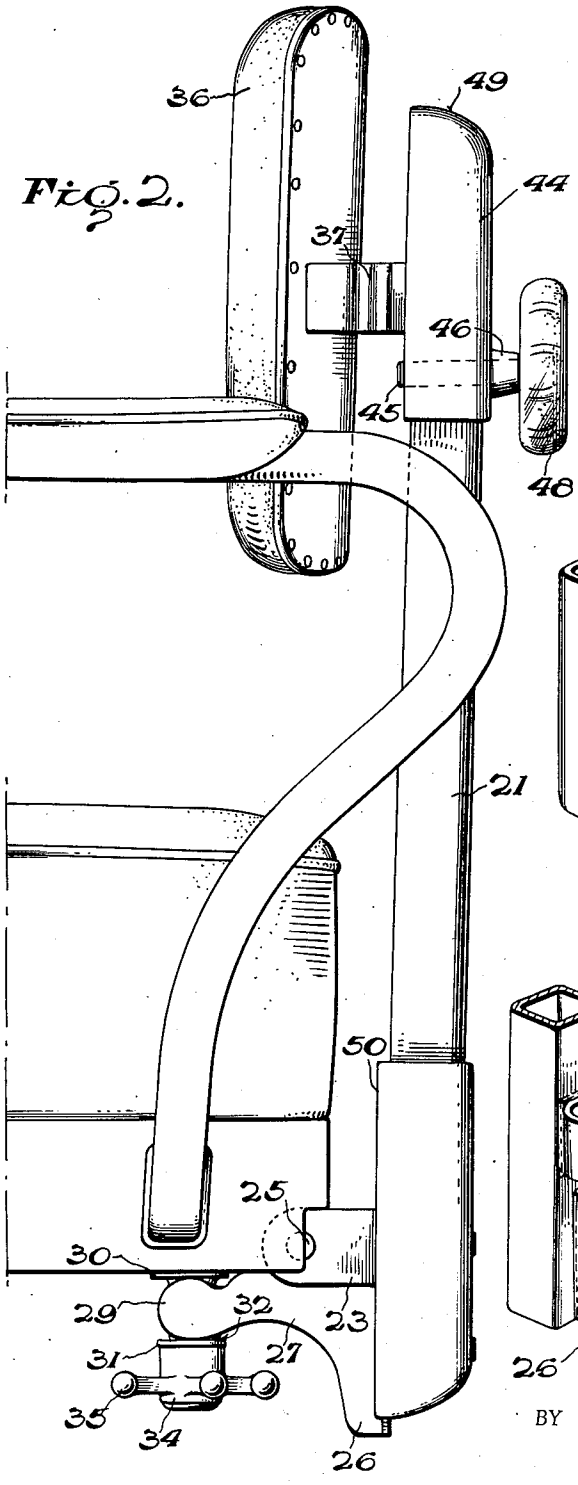


Fig. 3.

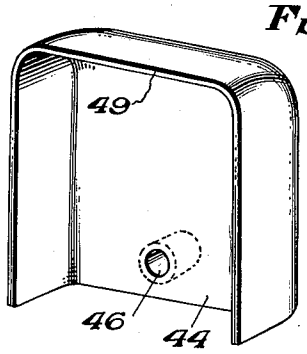


Fig. 4.

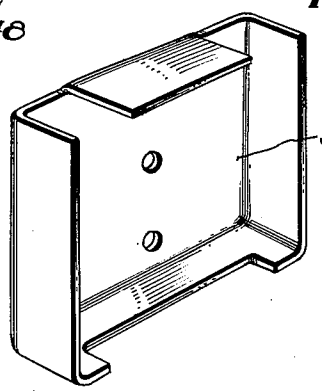
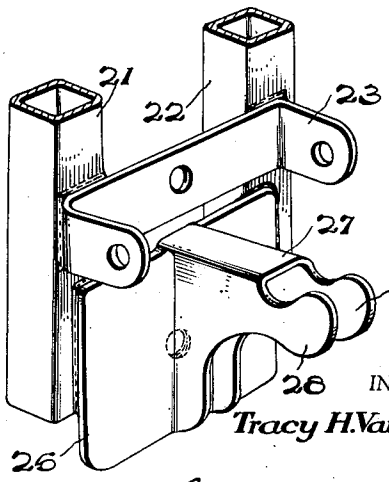


Fig. 5.



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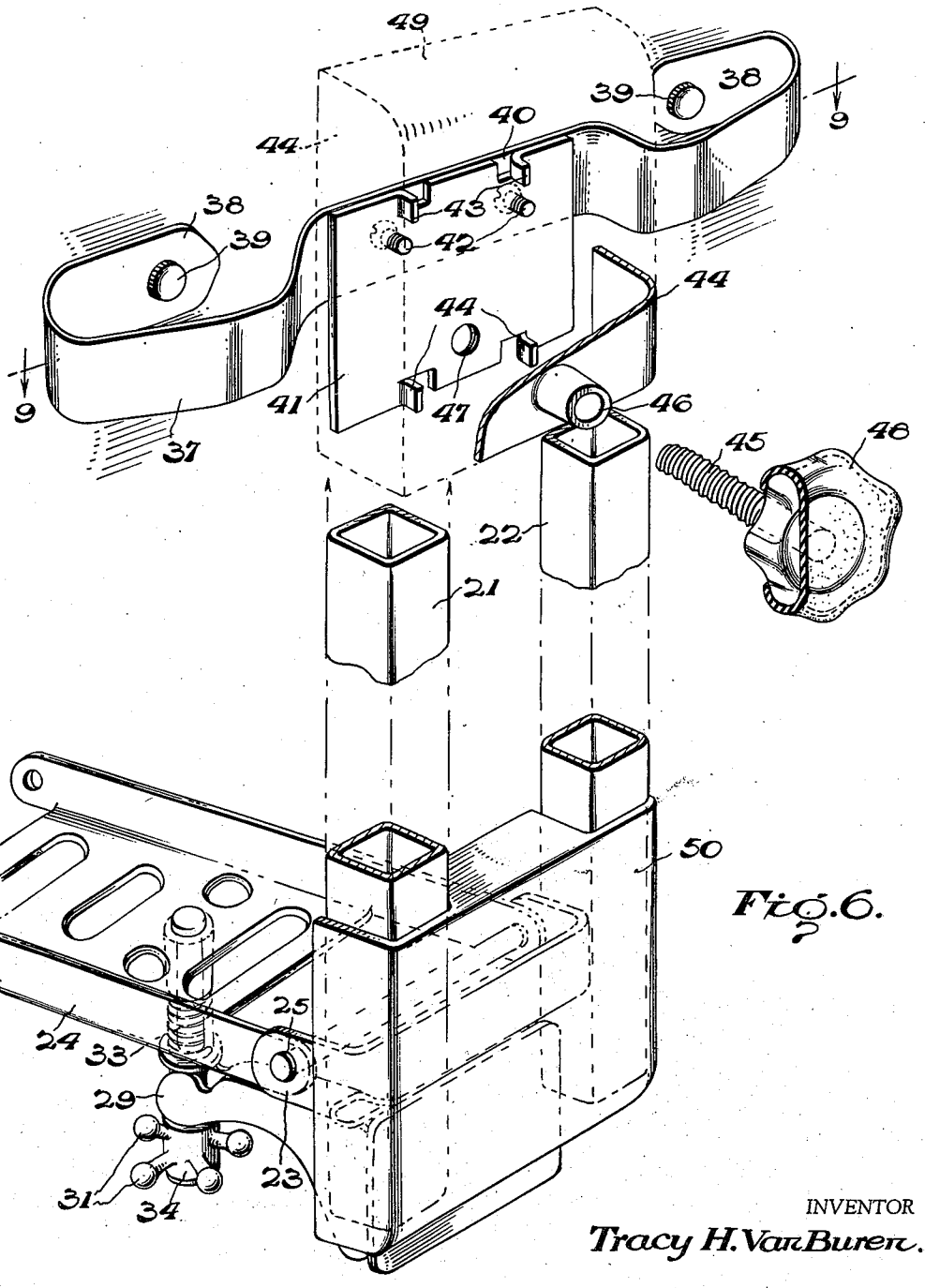


Fig. 6.

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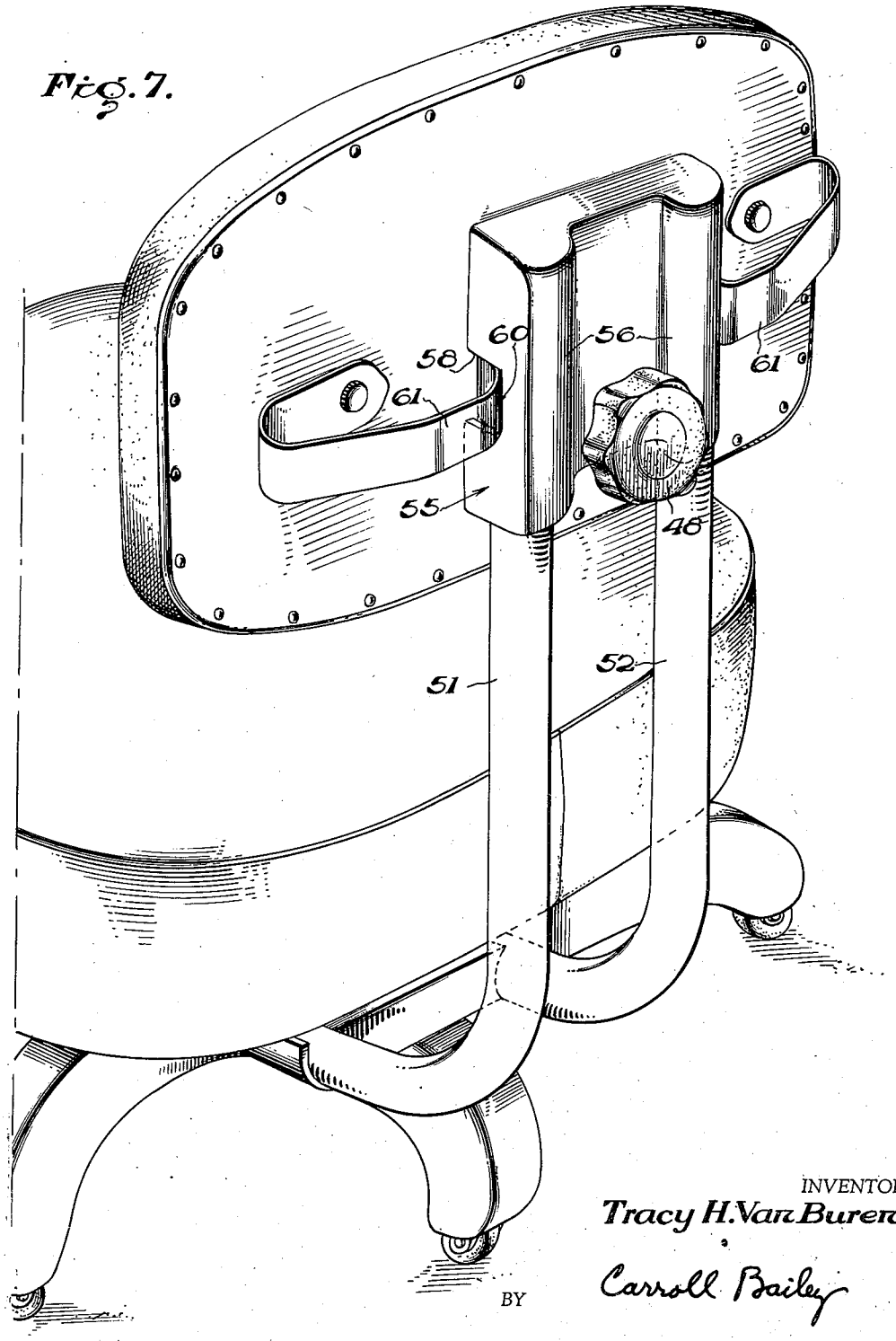
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Fig. 7.



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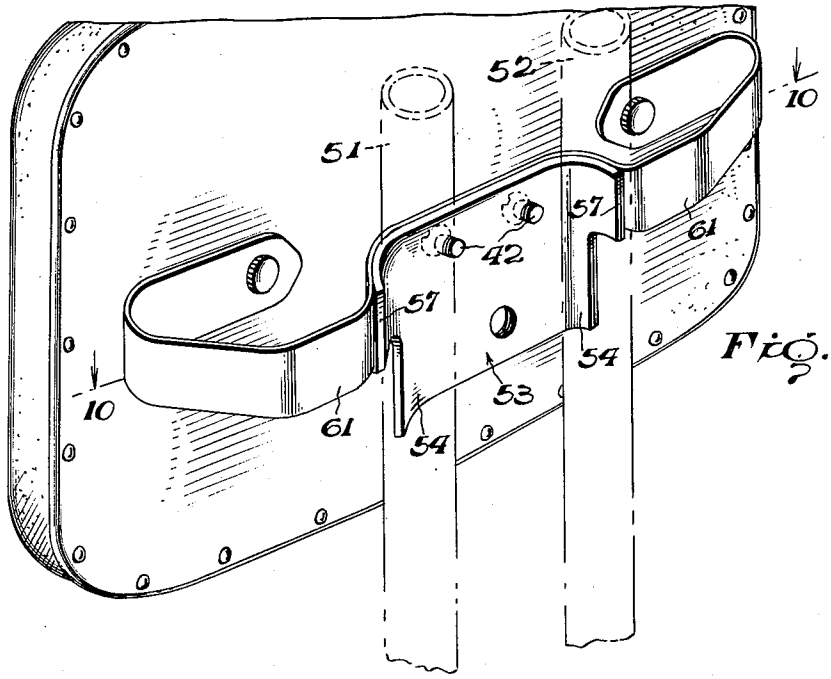


Fig. 8.

Fig. 9.

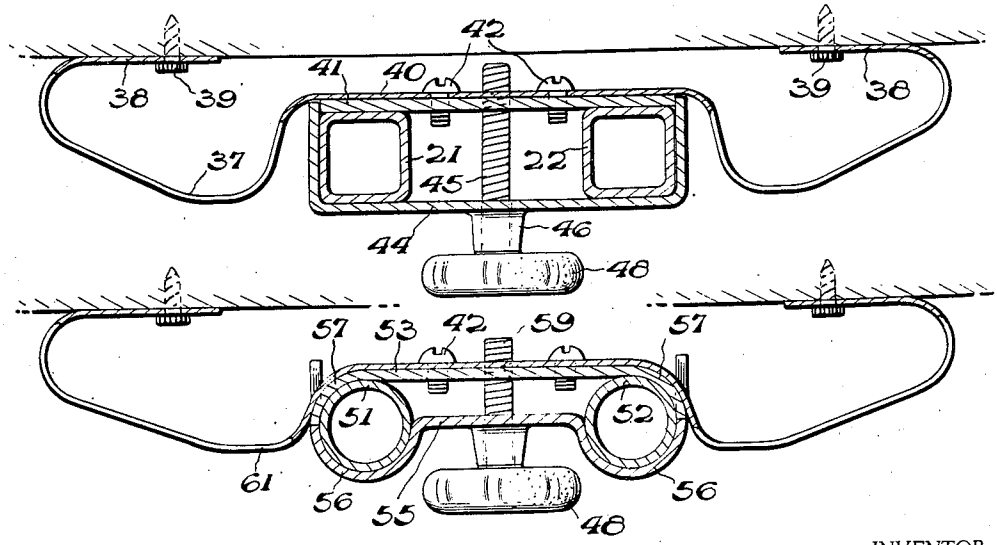


Fig. 10.

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UNITED STATES PATENT OFFICE

2,599,301

POSTURE CHAIR

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Application May 7, 1951, Serial No. 224,978

5 Claims. (Cl. 155—158)

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This invention relates to posture chairs of the kind used by typists, telephone operators and other workers and is more particularly concerned with novel improvements in the construction of those parts which cooperate to support the back rest of the chair.

The back rest is one of the most important elements of chairs of the type mentioned. The comfort of the person using such chair depends upon the proper support derived from the back rest. In actual use the back rest is the element among the others that is subjected to the most exigent stresses due to the constant shifting and twisting of the body of the person under normal work habits. Accordingly, the back rest must not only yield to these stresses in order to preserve its proper position relative to the body of the person using the chair but, at the same time, it must be so constructed as to prevent it from moving out of the proper relative position. In other words, the back rest should be so constructed and mounted as to feel to the user as if it were a part of his body and yet furnish the support for his back.

One of the important problems in providing chairs to function in the manner indicated is the elimination of loose fits of the supporting parts while, at the same time, rendering the back rest yieldable to the normal movements of the body of the person both with respect to side-to-side movements and up-and-down movements so that it will not assume abnormal and uncomfortable positions.

The general objects of this invention is the provision of a chair of the type mentioned in which the back rest is supported in such a way as to meet the requirements set forth above.

Other objects and advantages of the invention will appear more fully from the following description in which reference is made to the accompanying drawings.

In the drawings:

Figure 1 is a perspective view of the back of a chair of the type mentioned illustrating one embodiment of the invention.

Figure 2 is an end view of the same embodiment.

Figure 3 is a perspective view of the clamp member at the top of the supporting posts.

Figure 4 is a perspective view of the cover member at the bottom of the supporting posts.

Figure 5 is a perspective view of the bottom supporting bracket.

Figure 6 is an exploded perspective view partly in section of the principal mechanical elements of the said embodiment.

Figure 7 is a perspective view of the back of a chair of the type mentioned illustrating a second embodiment of the invention.

Figure 8 is a view similar to Figure 7 with some parts removed to show the upper construction of the second embodiment.

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Figure 9 is a section along the line 9—9 of Figure 6.

Figure 10 is a section along the line 10—10 of Figure 8.

Referring with more particularity to the drawing in which like numerals designate like parts the embodiment illustrated in Figures 1 to 6 and 9 comprises a pair of spaced uprights or posts 21 and 22 of square or rectangular cross section, preferably hollow. These members are secured to a horizontal U bracket 23 at the bottom, which bracket is pivotally attached to a frame member or members such as the channel 24 under the seat of the chair, by means of a pintle 25.

Beneath the bracket 23 a plate member 26 is also secured to said posts, said plate member having an inwardly projecting arm 27 the outer end of which is bifurcated and made circular to provide two spaced cam-like members 28 and 29 which are seated between the flanges 30 and 31 of a vertical spool 32 and straddling the shank thereof. Said spool 32 is slidably mounted on a vertical threaded shaft 33, the upper end of the shaft being secured to the said channel frame member 24 or any other frame member rigid therewith. The bottom of the spool is secured to a nut 34 having finger grips 35 and which is threadedly engaged with the shaft 33. By adjusting the position of the nut 34 on the shaft 33 the posts 21 and 22 are caused to pivot or tilt about the pintle 25.

On top of the posts 21 and 22 there is disposed a removable assembly which carries a floating back rest 36. This assembly comprises a loop or bowed member 37 of spring steel or other suitable resilient material. The ends 38 of said bowed member are inwardly disposed and secured to the back of the back rest 36 by screws, rivets or other suitable means 39. The middle section 40 of said bowed member is inwardly recessed and is secured to the top of a flat plate bracket 41 by means of screws 42 or other suitable means.

Projecting from the back of the bracket 41 is a pair of horizontally spaced fingers 43 at the top and a pair of similar fingers 44 at the bottom. These fingers are so positioned as to slidably abut the inner opposing sides of the posts. The bracket 41 is held in this position by means of a clamp member 44 which fits across the back, over the top and around the outer sides of the posts 21 and 22 and, which is provided with a threaded bolt 45 that slidably engages a bossed aperture 46 at the back of the clamp member and threadedly engages a threaded aperture 47 in the bracket 41. The outer end of the bolt 45 has a rubber cover knob 48 to facilitate manual turning thereof.

By means of the construction described above it is apparent that this invention provides a resiliently yieldable floating support for the back rest member of the chair. The entire supporting assembly is rigidly held on the upright posts

without any lost motion connections. This supporting assembly is vertically adjustable within limits, the limitation being imposed by the abutment of the top portion of the clamp member **44** against the top of the posts. While the limits of this adjustment may be varied by changing the vertical dimensions of the clamp member **44** it is important that the top or hood portion **49** of this member be provided for abutment with the top of the posts in order to prevent the inadvertent dropping down of the assembly completely against the seat of the chair during adjustments of the position of the assembly on the post.

A cover member **50** at the bottom of the posts serves to enclose or conceal from view that portion of the assembly at the bottom of the posts.

The second embodiment of the invention illustrated in Figures 7, 8 and 10 differs from the first embodiment in the provision of posts **51** and **52** having a circular or other curvilinear cross section instead of a square or rectangular cross section. The use of the curved cross section posts requires modified means for securing the removable assembly to it without lost motion. The modified means, illustrated with reference to a circular cross section, comprises a bracket **53** with curvatures **54** to fit partially around the outer sides of the posts. Complementarily thereto the clamp member **55** is provided with semi-cylindrical curvatures **56** which fit around the back of the posts substantially as shown. To provide a more secure fit of the removable assembly on the posts, projections **57** at either end of the bracket extend about half way around the outer sides of the posts and fit into recesses **58** provided on the sides of the clamp member **55**. By these means when the bolt **59** is tightened to draw the clamp member and the bracket together, the ends of said projections **57** abut the recessed edges **60**, thereby preventing relative movement of these two parts while they are tightly engaged with the posts. The said recesses may also receive the resilient loop or bowed member **61**, as illustrated.

I claim:

1. In a posture chair having a floating back rest and a pair of spaced vertical posts for supporting said rest, a bowed resilient loop attached to the back of the said rest and having a portion thereof offset from the said rest, a bracket secured to said offset portion, said bracket being adapted to be disposed across one side of said posts, a clamp member adapted to be disposed across the opposite side of said posts, said clamp member having a hood to extend over the top of said posts, said member also having sides to engage a portion of the lateral surfaces of said posts, the shape of said sides and lateral surfaces being complementary, and means for removably securing said bracket and clamp member to said post.

2. In a posture chair having a floating back rest and a pair of spaced vertical posts for supporting said rest, each of said posts having a rectangular cross section, a bowed resilient loop attached to the back of the said rest and having a portion thereof offset from the said rest, a bracket secured to said offset portion, said bracket being adapted to be disposed across one side of said posts, spaced projections extending from said bracket, said projections being adapted to abut the opposing inner faces of said posts, there being at least two projections for each post, a clamp member adapted to be disposed across the opposite side of said posts, said clamp member having a hood to extend over the top of said posts, the sides of said member being adapted to engage the rear faces and opposing outer faces of said posts, and means for removably securing said bracket and clamp member to said posts.

3. In a posture chair having a floating back rest and a pair of spaced vertical posts for supporting said rest, each of said posts having a curvilinear cross section, a bowed resilient loop attached to the back of the said rest and having a portion thereof offset from the said rest, a bracket secured to said offset portion, said bracket being adapted to be disposed across one side of said posts, a clamp member adapted to be disposed across the opposite side of said posts, said clamp member having a hood to extend over the top of said posts, said bracket and said clamp member each having curvatures to engage complementarily the curvatures of said posts and means for removably securing said bracket and clamp member on said posts.

4. In a posture chair having a floating back rest and a pair of spaced vertical posts for supporting said rest, each of said posts having a curvilinear cross section, a bowed resilient loop attached to the back of the said rest and having a portion thereof offset from the said rest, a bracket secured to said offset portion, said bracket being adapted to be disposed across one side of said posts, a clamp member adapted to be disposed across the opposite side of said posts, said clamp member having a hood to extend over the top of said posts, said bracket and said clamp members each having curvatures to complementarily engage the curvatures of said posts, means for removably securing said bracket and clamp member on said posts, said bracket and clamp members having complementary interlocking projections and recesses.

5. In a posture chair having a floating back rest and a pair of spaced vertical posts for supporting said rest, each of said posts having a curvilinear cross section, a bowed resilient loop attached to the back of the said rest and having a portion thereof offset from the said rest, a bracket secured to said offset portion, said bracket being adapted to be disposed across one side of said posts, a clamp member adapted to be disposed across the opposite side of said posts, said clamp member having a hood to extend over the top of said posts, said bracket and said clamp members each having curvatures to complementarily engage the curvatures of said posts, means for removably securing said bracket and clamp member on said posts, said bracket having projections extending toward the clamp member, said clamp member having recesses for receiving and interlocking with said projections and with the offset portion of said bowed loops.

TRACY HENRY VAN BUREN.

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